

Diseases of Blood Vessels and Lymphatics

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Diseases of Blood Vessels and Lymphatics

<p>Blood Vessels</p> <ul style="list-style-type: none"> • Arteriosclerosis • Temporal arteritis (giant cell arteritis) • Takayasu's Disease • Varicose veins • Phlebothrombosis and Thrombophlebitis • Migratory thrombophlebitis 	<p>Lymphatics</p> <ul style="list-style-type: none"> • Lymphedema • Tumours of lymphatics
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Arteriosclerosis

- Def: A group of disorders characterized by thickening and loss of elasticity of arterial wall, called arteriosclerosis
- Types
 - Atherosclerosis
 - Monckeberg's medial calcific sclerosis
 - Arteriolosclerosis

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Atherosclerosis

- Def - A type of arteriosclerosis characterized by formation of subintimal atheroma composed of fibrofatty plaque.
- Affected arteries
 - Large and medium sized muscular arteries
 - Coronary
 - Carotid
 - Arteries of lower extremities
 - Elastic arteries
 - Aorta
 - Iliac arteries

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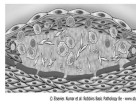
Risk Factors of Atherosclerosis

- Major
 - Cigarette smoking
 - Hypertension
 - Diabetes mellitus
 - Hyperlipidemia
- Minor
 - Age - incidence increases with increasing age
 - Sex - common in male, in female after menopause
 - Inadequate physical activity
 - Obesity
 - Hyperuricemia
 - High carbohydrate intake
 - Use of oral contraceptive

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Morphology of Atheromas



ATHEROMATOUS PLAQUE

- Naked eye
 - Grayish white plaque protrudes into lumen
- Cut section
 - Fibrous cap at luminal aspect and soft yellow deeper portion

- M/F
 - Cells: smooth muscles and macrophages
 - Connective tissue: collagen, elastic fibres, proteoglycans
 - Lipid: intracellular (Lipid-laden macrophages) and extra cellular

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Complications of Atheroma

- Calcification -> hardening
- Ulceration -> microemboli formation
- Hemorrhage -> further narrowing
- Aneurysmal dilatation

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Monkeberg's Medial Calcific Sclerosis

- Def: A type of arteriosclerosis characterized by ring like calcification in tunica media of medium sized muscular arteries
- Affected arteries are
 - Femoral
 - Tibial
 - Radial
 - ulnar

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Arteriolosclerosis

- Hyaline thickening of arteriolar wall and narrowing of lumen
- Common site
 - Kidney
 - Intestine
 - Gall bladder etc.

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Temporal Arteritis (Giant cell arteritis)

- Granulomatous inflammation of arteries, usually temporal artery in old age.
- Presented with head ache, tenderness over arteries, visual loss, facial pain
- M/F
 - Granuloma
 - Giant cells
 - Lymphocytes
 - Intimal fibrosis

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Takayasu's Arteritis [Pulseless Disease]

- Granulomatous vasculitis
 - Fibrous thickening of aortic arch with narrowing
 - Found in Takayasu's syndrome
 - Ocular disturbane
 - Weak or absent pulse in extremities
 - Cause: not clear
 - Predominantly in female of 15-45 yrs

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Diseases of Vein


- Varicose vein
- Phlebothrombosis and thrombophlebitis
- Migratory thrombophlebitis

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Varicose Vein

- Def: Abnormally dilated and tortuous vein produced by prolonged and increased intraluminal pressure is called varicose vein.
- Pathogenesis
 - Developmental defect of vein wall and poor support to vein.
 - Histopathology: Thinning at the site of dilatation and thickening at the site of fibrosis
 - Complication:
 - Venous stasis
 - Congestion
 - Edema
 - Thrombosis
 - Dermatitis and skin ulcer over varicose vein



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Phlebothrombosis and Thrombophlebitis

- Thrombosis within vein is called phlebothrombosis
- Phlebothrombosis with inflammation in vein is called thrombophlebitis
- Thrombophlebitis with obliteration of lumen of vein is called thrombophlebitis obliterance

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Migratory Thrombophlebitis

- Def: Multiple venous thrombi formation and disappearance at one site, following appearance of thrombus at another site.
- Found in deep seated visceral cancers
 - Carcinoma of colon
 - Carcinoma of pancreas

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Vascular Tumours

- Benign
 - Haemangioma
 - Capillary haemangioma
 - Cavernous haemangioma
 - Glomus tumour (Glomangioma)
- Malignant
 - Haemangiosarcoma
 - Haemangiopericytoma
 - Kaposi's sarcoma (in AIDS)

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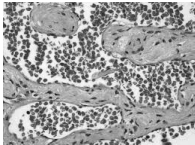
Capillary Haemangioma

- Site: Skin, subcutaneous tissue, mucosa of oral cavity, lips etc.
- Diagnosis
 - FNAC:
 - Aspirated material is blood
 - M/F: RBC only.
 - Histopathology
 - Uncapsulated, closely packed thin walled capillaries filled with blood, ±Haemosiderin pigments.

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Cavernous Haemangioma


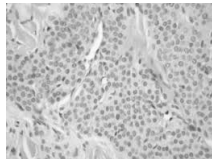
- Site: Skin, mucosal surface of body etc.
- Diagnosis
 - FNAC
 - Aspirated material is blood
 - M/F: RBCs only
 - Histopathology
 - Uncapsulated, closely packed thin walled large, cavernous vascular spaces filled with blood.

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Glomus Tumour (Glomangioma)

- Def: Benign tumour arises from glomus body. It is modified smooth muscle cell of artery.
- Presentation: Very painful, pinhead sized tumour under nail bed.
- Histopathology
 - Branching vascular channels separated by connective tissue stroma
 - Stroma contains nests of glomus cells. Glomus cells are uniform, round to cuboidal in shape with scanty cytoplasm.

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Glomus Body

- Neuromyoarterial receptor – sensitive to variation of temperature
- Regulate arteriolar flow
- Has afferent artery, arteriovenous anastomosis and efferent veins.
- Commonly located in distal portion of fingers and toes, specially under the nails.

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Diseases of Lymphatics

- Lymphangitis
- Lymphedema
- Tumours of lymphatics

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Lymphedema

- Def: Lymphatic obstruction followed by excess accumulation of interstitial fluid in affected part is called lymphedema.
- Causes
 - Malignant tumour
 - Radical surgical procedures with nodal removal. Eg. Radical mastectomy.
 - Postradiation fibrosis
 - Filariasis

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Tumours of Lymphatics

- Benign
 - Simple (Capillary) lymphangioma
 - Cavernous lymphangioma / cystic hygroma
- Malignant
 - Lymphangiosarcoma
- Difference of lymphangioma from haemangioma is absence of RBC in lymphangioma.

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